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ABSTRACT

In order to analyze the effectiveness of school districts in Kentucky, a study looked at basic skill test scores in reading and language at two grade levels, 3rd and 10th. In order to take into account student differences between school districts, the percentage of students in the "below average" range on the Short Form Test of Academic Abilities (SFTAA) Verbal Ability Tests for grades 3 and 10 were subtracted from the percentage in the below average category on the basic skills reading and language tests. Analysis indicated that Kentucky school districts are fairly effective. In an attempt to determine the sources of differences that did occur, a variety of administrative, teacher, and finance variables were examined in multiple regression analyses. Although student ability was the most important factor, other factors such as per pupil expenditure, administrative costs, and financial support also showed some influence. Increased expenditure seemed to lead to negative results, and other patterns were unclear. Perhaps more sophisticated measures or better sampling techniques will provide a better explanation of school effectiveness in the future. (JL)

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# Investigating School Effectiveness at the District Level: Reading and Language Mastery in Kentucky School Districts

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Investigating School Effectiveness at the District Level: Reading and Language Mastery in Kentucky School Districts

Having recently completed a major descriptive study of educational performance in four Appalachian states, this investigator was interested in some exploratory analyses which would speak to a number of current issues in the school effectiveness literature. As a novice in this area, my reading of this literature suggests both some interesting findings and some conceptual "logjams" offered by researchers in this field.

Without belaboring the point, it seems plausible that public schools do have differential impact on student skill development (Purkey and Smith, 1982). The main question seems to be whether and to what extent measured effectiveness is a result of peer influences in the school (e.g., McDill, 1967), the social climate of classrooms and schools brought about by the interaction of teachers, pupils, and administrators (e.g., Moos, 1979), interaction between parents and children during the educational process (e.g., Sewell and Hauser, 1975) or specific instructional features of the school which increase learning (e.g., Clark, 1980, Brophy and Good, 1970).

As the above description should suggest, arguments about what constitutes the effective school call into question not only what factors are most important in understanding "the effective school," but at what level of analysis such an understanding should take place. Typical of the former type of arguments are: what should be the basis of evaluating school effectiveness (e.g., achievement test scores, achievement test scores corrected for social

class background, self-concept, high school graduation, etc.); are the factors associated with effective schooling similar at all grade levels; are schools that are effective in teaching academic skills also effective in non-academic areas?; do boys respond to effective instruction in similar ways to girls; etc. (Madaus, et. al., 1980).

At the level of analysis discussion, a number of academics debate the usefulness of studies which locate a successful teacher or principal vs. studies at the school system or district level. While some educators and researchers seem satisfied with discovering the effective principal and/or the effective teacher through a case study approach, other researchers feel that identifying competent personnel in the school has more limited policy implications than discovering system-wide factors which may help explain school effectiveness (Bidwell and Kasarda, 1975). The major argument against school system studies seems to stem from the rather disappointing findings of the Equality of Educational Opportunity Study (Coleman, et. al., 1966).

## Analyzing School District Effectiveness in Kentucky

As this brief overview suggests, how one defines effectiveness and at what level (e.g., classroom, school or district) the analysis of effectiveness is performed are two key problems facing the school effectiveness researcher. In a study conducted by my colleagues and myself, multiple measures of input, process and outcome measures were utilized to describe school district performance in four Appalachian states (DeYoung, et. al., 1982). For purposes of this discussion, we have chosen to look at basic skill test scores in reading and language at two grade levels in Kentucky school districts. The district level was chosen both because the state department of education releases data

in this fashion, and because the researchers felt that structural variations in school performance are more interesting vis-a-vis policy formation.

The state of Kentucky contains one hundred eighty-one school districts, most of which are rural in nature. Every year the state conducts an assessment of basic skill performance (C.T.B.S.) and releases data which describes the percentage of students who fall in the bottom three stanines (based on national norms) within each district. Basic skill tests include reading, language, math, science, social studies, reference skills and the total test. Tests are administered in grades three, five, seven and ten. An optional test in each district is the Short Form Test of Academic Abilities (S.F.T.A.A.) which may or may not be given prior to the C.T.B.S. tests. Both tests are published by McGraw-Hill.

As might be expected, pupil performance within each district varies dramatically. Tables 1-4 indicate the distribution of district scores on the percentage of their students who fall in the below average category on C.T.B.S. reading and language scores at grades three and ten for the 1979-80 school year. While the national average on each subtest is twenty-three percent, it is clear that Kentucky district scores vary greatly.

Rather than to argue that such scores measure school effectiveness however, we were sure that several non-school factors could be used to explain much of the variation in district test scores. A number of researchers argue that the best predictors of student outcome are input measures, particularly ability and relatedly, social class (e.g., Coleman, 1966; Hurn, 1978).

Thus, in order to take into account student input differences between school districts, the percentage of students in the "Below Average Range" on the S.F.T.A.A. Verbal Ability Tests for grades three and ten were subtracted

from the percentage in the below average category on the C.T.B.S. Reading and Language Tests. Were schools all to have an equal impact on reading and language achievement scores, minimal differences between districts should have been evident, operating under the hypothesis that student ability actually is the best (or only) predictor of learning outcome.

Tables 5-8 indicate the distribution of "more" and "less" effective school districts in the state of Kentucky, on reading and language achievement controlling for student ability. Unfortunately, a substantial number of districts did not administer the S.F.T.A.A., and distributions here show fewer than the possible one hundred eighty-one school districts for the state.

As investigation of these four tables suggests, as a group, Kentucky school districts are fairly effective. That is, on average Kentucky districts report lower percentages of their students in the below average range in the nationally normed basic skills tests than they report in the below average range on measured ability. Each score indicates the percentage of students below average in a basic skill area from a given district less the percentage of students in the below average range on verbal ability. Thus a district reporting twenty-percent of its students below average on C.T.B.S. Reading but reporting th'rty percent of its students in the same range on S.F.T.A.A. Verbal ability scores -10 in this analysis. The lower the district score on such a reading or language effectiveness measure the more effective the school district for purposes of this analysis.

As tables 5 and 6 indicate, reading and language effectiveness by district appears distributed quite similarly across the districts reporting. Means for both distributions are quite similar, with language effectiveness marginally higher in these tables.

Tables 7 and 8 also suggest an approximately normal distribution, but indicates that language development, based on national averages, seems somewhat more effectively accomplished in tenth grade Kentucky schools than reading. Both distributions, however, suggest that language development seems to benefit from formal education over and above what one would predict from verbal ability measures alone.

While tables 5-8 do suggest overall effectiveness of school district performance in Kentucky, it is also obvious that some districts appear more effective than others, given the criteria specified to this point. The next question in this analysis becomes, are there specific input or process differences between districts, in addition to ability, which predict reading and language achievement?

To investigate structural factors possibly related to district outcome measures on C.T.B.S. Reading and Language tests, a number of administrative, teacher, and finance variables, aggregated at the district level were incorporated into a multiple regression model. These indicators included:

ENROLL: Total District Enrollment

ECONDEPR: Percentage of School District Children who Quality for Title I Funds

RATIO: Average Pupil/Teacher Ratio by District

ENTRYREV: The Percentage of School District Financial Support Provided by Local Sources

LOCFININ: Index of Local District School support based on Financial Ability to pay for such Costs

TCHSAL: Average Teacher Salary (Elementary or Secondary) by District

RANKTWOT: Percent of District Teachers with a Master's Degree or More Formal Education

PREXPADA: District Per-Pupil Expenditure for Children in Average Daily Attendance

PREXPINS: District Per-Pupil Expenditures for Children on Instructional Materials

PPEXPADM: District Per-Pupil Expenditures for Administration.

Tables 9-12 indicate the results of stepwise multiple regression analyses in the prediction of Kentucky third and tenth grade reading and language achievement by district. As each table clearly indicates, average ability measures account in these regressions for much, but not all, of measured achievement differences. For third grade reading and language, only per-pupil expenditures for administration (Table 9) and instruction (Table 10) indicate any significant predictive ability towards achievement. Interestingly, they both have negative weights, thus indicating at the elementary level that increasing expenses have a slightly negative impact on achievement scores, if there is any impact at all. Conspicuous by their absence in these predictions are indicators of teacher quality and pupil-teacher ratio.

Tables 11 and 12 also show that student ability aggregated at the district level accounts for most of the variation in reading and language achievement at the tenth grade level. However, these two tables also indicate other aggregate indicators of achievement. Both regressions indicate a positive relationship between the number of Title I eligible children per district and achievement levels. Possible interpretation of these findings might be that funds for Title I programs appear to be paying off in achievement gains in these districts, or that high school dropout of marginal students is higher in poor districts, leaving fewer students who would have scored in the below average range to take the CTBS test.

Another slightly predictive variable for reading achievement in grade

ten is the Local Financial Index. This indicator of the willingness to support public schools given taxable resources of a district has a negative weight in this regression equation. Possibly, wealthier districts are putting money into non-academic areas (e.g., athletics) which detract from academic pursuits (e.g., Coleman, 1960).

Also negatively weighted in the prediction of tenth grade language scores (Table 12) is per-pupil expenditure for administration. Like the finding above, speculation as to the possible meaning of such a finding must be just that. Whatever the case, the finding again at the tenth grade that most school process indicators show no relationship or negative relationship to achievement differences is quite interesting if mildly depressing. Of course, these findings are consonant with the EEO findings of Coleman, et. al. (1966).

Briefly summarizing then, it was the intent of this paper to investigate school effectiveness at the district level, looking at input, process, and outcome differences between school districts in the state of Kentucky. It was hoped that reading and language basic skill scores could be explained by such variables, controlling for student ability scores across districts.

Unlike earlier studies, our analysis suggested that school effectiveness can be operationally defined and that in Kentucky, districts can be classified as more or less effective. Unfortunately, we were unable to find consistent effects upon effectiveness across both tests and both grade levels once ability was controlled for. Either our measures of district organization were too crude in this analysis to help explain such differences; the loss of approximately a third of our sample adversely effected our ability to find differences; or district measures conceal most of the between school varia-

tion which may better explain measured school district effectiveness. We expect to refine our measures and continue the analysis as our research on school effectiveness in the southeast continues.

# TABLE 1

PERCENTAGE OF KENTUCKY STUDENTS IN THE BELOW AVERAGE RANGE BY SCHOOL DISTRICT: C.T.B.S. READING SUBTEST TOTAL, GRADE 3*

| % | District |
|---|---|
| 0 | Anchorage Ind |
| | Beechwood Ind |
| | BEREA IND |
| | Eminence Ind |
| | Jones Jaggar Lab |
| | MODEL LAB |
| | UNIV. BRECKINRIDGE |
| 1 | Calloway |
| 2 | Danville Ind |
| | Murray Ind |
| 3 | Erlanger-Elsmere Ind |
| | Ft. Thomas Ind |
| 4 | Glasgow Ind |
| | Hickman |
| | Russellville Ind |
| 5 | Cloverport Ind |
| | Crittenden |
| | Kenton |
| | RUSSELL IND |
| 6 | Graves |
| | Henry |
| | Lyon |
| | Marshall |
| | Mayfield Ind |
| | McClean |
| | Oldham |
| | Owen |
| | RACELAND IND |
| | Southgate Ind |
| | Warren |
| | West Point Ind |
| 7 | Bourbon |
| | Christian |
| | Fulton Ind |
| | McCracken |
| | Silver Grove Ind |
| 8 | Burgin Ind |
| | Campbell |
| | Carlisle |
| | CLARK |
| | Daviess |
| | Franklin |
| | Ft. Knox |
| | Grant |
| | Greenville Ind |
| | Harrison |
| | Paris Ind |
| | SOMERSET IND |
| | Walton Verona Ind |
| | Williamstown Ind |
| 9 | Ballard |
| | Boone |
| | Boyle |
| | Elizabethtown Ind |
| | Fayette |
| | Hancock |
| | Harrodsburg Ind |
| | Hopkins |
| 10 | Anderson |
| | Bellevue Ind |
| | Breckinridge |
| | ESTILL |
| | Henderson |
| | Jefferson |
| | Larue |
| | MADISON |
| | Scott |
| | Woodford |
| 11 | ASHLAND IND |
| | Barren |
| | BOYD |
| | Edmonson |
| | Frankfort Ind |
| | Logan |
| | PULASKI |
| | Simpson |
| 12 | CORBIN IND |
| | Grayson |
| | Hardin |
| | Jessamine |
| | Washington |
| 13 | Bracken |
| | Marion |
| | Mercer |
| | Nelson |
| | Ohio |
| | PAINTSVILLE IND |
| | SCIENCE HILL IND |
| | WILLIAMSBURG IND |
| 14 | Gallatin |
| | GREEN |
| | JACKSON IND |
| | Livingston |
| | Pendleton |
| | Shelby |
| | Todd |
| 15 | Bowling Green Ind |
| | MONROE |
| | Nicholas |
| | WAYNE |
| 16 | Butler |
| | CUMBERLAND |
| | LAUREL |
| | LEE |
| | POWELL |
| | ROWAN |
| | WOLFE |
| 17 | HAZARD IND |
| | MONTGOMERY |
| | Paducah Ind |
| | RUSSELL |
| | Taylor |
| 18 | Allen |
| | CARTER |
| | FLEMING |
| | GARRARD |
| | LINCOLN |
| | PIKE |
| | PIKEVILLE IND |
| | Providence Ind |
| 19 | Bullitt |
| | Caldwell |
| | E. BERNSTADT IND |
| | HARLAN IND |
| | Webster |
| 20 | Hart |
| | JENKINS |
| | LETCHER |
| | Ludlow Ind |
| | PINEVILLE IND |
| 21 | Ft. Campbell |
| | GREENUP |
| | Maysville Ind |
| | MCCREARY |
| | ROCKCASTLE |
| 22 | Carroll |
| | Mason |
| | Muhlenberg |
| 23 | ADAIR |
| | BARBOURVILLE IND |
| | BELL |
| | Dawson Springs Ind |
| | JOHNSON |
| | KNOTT |
| | MIDDLESBORO IND |
| | MONTICELLO IND |
| | Owensboro Ind |
| 24 | Bardstown Ind |
| | Dayton Ind |
| | Fulton |
| | JACKSON |
| | Trigg |
| | Union |
| 25 | Augusta Ind |
| | Caverna Ind |
| | ELLIOTT |
| | Meade |
| | Metcalfe |
| | MORGAN |
| | Spencer |
| | Trimble |
| | WHITLEY |
| 26 | FAIRVIEW IND |
| | LESLIE |
| 27 | CLAY |
| | Covington Ind |
| 28 | CLINTON |
| | RICHMOND IND |
| | Robertson |
| 29 | Campbellsville Ind |
| | Central City Ind |
| | LAWRENCE |
| | Newport Ind |
| 30 | BREATHITT |
| | MAGOFFIN |
| 31 | OWSLEY |
| 32 | Carroll |
| 33 | KNOX |
| | LEWIS |
| | MENIFEE |
| 34 | CASEY |
| 35 | PERRY |
| 37 | FLOYD |
| 41 | HARLAN |
| | LYNCH IND |
| 42 | MARTIN |

# TABLE 2

PERCENTAGE OF KENTUCKY STUDENTS IN THE BELOW AVERAGE RANGE BY SCHOOL DISTRICT: C.T.B.S. LANGUAGE TOTAL, GRADE 3*

| # | District |
|---|---|
| 0 | Anchorage Ind |
| | Beechwood Ind |
| | Eminence Ind |
| | Jones Jagger Lab |
| | U. BRECKINRIDGE |
| 1 | BEREA IND |
| 2 | Ft. Thomas Ind |
| | MODEL LAB |
| | Russellville Ind |
| 3 | Calloway |
| | Erlanger-Elsmere Ind |
| | Greenville Ind |
| | Hickman |
| | Murray Ind |
| | Paris Ind |
| 4 | Danville Ind |
| | Glasgow Ind |
| | Graves |
| | Harrison |
| | Kenton |
| | RUSSELL IND |
| | Walton Verona Ind |
| | Warren |
| 5 | Fulton Ind |
| | Grant |
| | Hancock |
| | Lyon |
| | Marshall |
| | Oldham |
| | Washington |
| 6 | RACELAND IND |
| | Southgate Ind |
| 7 | Anderson |
| | Barren |
| | JACKSON IND |
| | Mayfield Ind |
| | McCracken |
| 8 | Burgin Ind |
| | CLARK |
| | Henderson |
| | Henry |
| | PAINTSVILLE IND |
| | Williamstown Ind |
| 9 | Bellevue Ind |
| | Breckinridge |
| | Crittenden |
| | Daviess |
| | Elizabethtown Ind |
| | Franklin |
| | Owen |
| | SOMERSET IND |
| 10 | Boone |
| | Christian |
| | Cloverport Ind |
| 10 | Fayette |
| | Ft. Knox |
| | Jefferson |
| | Marion |
| | McClean |
| | SCIENCE HILL IND |
| | Silver Grove Ind |
| 11 | ASHLAND IND |
| | Bardstown Ind |
| | Campbell |
| | Carlisle |
| | E. BERNSTADT IND |
| | Hopkins |
| | RUSSELL |
| | Scott |
| | Shelby |
| 12 | BOYD |
| | ESTILL |
| | Grayson |
| | Larue |
| | MADISON |
| | West Point Ind |
| | Woodford |
| 13 | Bourbon |
| | Boyle |
| | Bracken |
| | Edmonson |
| | Gallatin |
| | Hardin |
| | Jessamine |
| | LEE |
| | Mercer |
| | MONROE |
| | MONTICELLO |
| | Taylor |
| | Todd |
| | WAYNE |
| 14 | Ballard |
| | HAZARD IND |
| | Logan |
| | Nelson |
| | Nicholas |
| | Ohio |
| | PULASKI |
| | ROWAN |
| | Simpson |
| | WILLIAMSBURG IND |
| 15 | Bowling Green Ind |
| | Carroll |
| | Harrodsburg Ind |
| | Hart |
| | Pendleton |
| | PIKEVILLE IND |
| 16 | FLEMING |
| | Frankfort Ind |
| | GARRARD |
| | LAUREL |
| | Livingston |
| 16 | PIKE |
| 17 | CARTER |
| | Central City Ind |
| | Dayton Ind |
| | LINCOLN |
| | Meade |
| | OWSLEY |
| 18 | Allen |
| | Butler |
| | ELLIOTT |
| | MONTGOMERY |
| | Owensboro Ind |
| | Paducah Ind |
| 19 | Bullitt |
| | CORBIN IND |
| | MCCREARY |
| | Providence Ind |
| | Webster |
| 20 | Campbellsville Ind |
| | CUMBERLAND |
| | GREEN |
| | JENKINS IND |
| | JOHNSON |
| | Mason |
| | ROCKCASTLE |
| 21 | BARBOURVILLE IND |
| | BATH |
| | Caldwell |
| | FAIRVIEW IND |
| | Metcalfe |
| | Muhlenberg |
| | RICHMOND IND |
| | Trigg |
| | Trimble |
| | WOLFE |
| 22 | ADAIR |
| | GREENUP |
| | LETCHER |
| | PINEVILLE IND |
| | Spencer |
| 23 | BELL |
| | CLAY |
| | Dawson Springs Ind |
| | Ludlow Ind |
| | Maysville Ind |
| | POWELL |
| | Union |
| 24 | Fulton |
| | KNOTT |
| 25 | Augusta Ind |
| | Ft. Campbell |
| | HARLAN IND |
| 26 | JACKSON |
| | LESLIE |
| 26 | MAGOFFIN |
| | MIDDLESBORO IND |
| | MORGAN |
| 27 | Caverna Ind |
| 28 | LEWIS |
| | Robertson |
| 29 | WHITLEY |
| 30 | Covington Ind |
| | Newport Ind |
| 31 | CLINTON |
| | LAWRENCE |
| 32 | BREATHITT |
| 35 | KNOX |
| 36 | CASEY |
| | FLOYD |
| 39 | MENIFEE |
| | PERRY |
| 40 | MARTIN |
| 41 | HARLAN |
| | LYNCH IND |

# TABLE 3

PERCENTAGE OF KENTUCKY STUDENTS IN THE BELOW AVERAGE RANGE BY SCHOOL DISTRICT: C.T.B.S. READING SUBTEST TOTAL, GRADE 10*

| % | District |
|---|---|
| 5 | MONTICELLO IND |
| 6 | Calloway |
| 7 | RUSSELL IND |
| | Walton Verona Ind |
| 8 | Ft. Thomas Ind |
| | Hickman |
| | LYNCH IND |
| | UNIV. BRECKINRIDGE |
| 9 | Cloverport Ind |
| | Elizabethtown Ind |
| | Lyon |
| 10 | CORBIN IND |
| | Silver Grove Ind |
| | Williamstown Ind |
| 11 | Bellevue Ind |
| | BEREA IND |
| | Marshall |
| | Mayfield Ind |
| | McCracken |
| | Murray Ind |
| 12 | Ft. Campbell |
| | MENIFEE |
| | Nicholas |
| 13 | Bracken |
| | CLARK |
| | Glasgow Ind |
| 14 | ASHLAND IND |
| | Danville Ind |
| | ELLIOTT |
| | Fayette |
| | JACKSON IND |
| 15 | Boyle |
| | Erlanger-Elsmere Ind |
| | Ft. Knox |
| | HAZARD IND |
| | Kenton |
| | Mercer |
| | PIKEVILLE IND |
| 16 | Caldwell |
| | Carlisle |
| | Dawson Springs Ind |
| | Grant |
| | Oldham |
| | RACELAND IND |
| | SOMERSET IND |
| | Woodford |
| 17 | Bardstown Ind |
| | Breckinridge |
| | Franklin |
| | Hardin |
| | Jessamine |
| 17 | Russellville Ind |
| | Simpson |
| | WILLIAMSBURG IND |
| 18 | BOYD |
| | Daviess |
| | MADISON |
| | MCCREARY |
| | Trimble |
| | Warren |
| | WAYNE |
| 19 | Ballard |
| | Campbell |
| | Graves |
| | PULASKI |
| | ROWAN |
| 20 | Allen |
| | Burgin Ind |
| | FLEMING |
| | Hancock |
| | Harrodsburg Ind |
| 21 | BARBOURVILLE IND |
| | Boone |
| | CASEY |
| | GARRARD |
| | HARLAN IND |
| | Harrison |
| | Henderson |
| | Hopkins |
| | Larue |
| | Meade |
| | PINEVILLE IND |
| 22 | Anderson |
| | Bourbon |
| | Bowling Green Ind |
| | CARTER |
| | Crittenden |
| | JACKSON |
| | Jefferson |
| | McClean |
| | Owensboro Ind |
| | Paducah Ind |
| | Paris Ind |
| | Scott |
| 23 | Caverna Ind |
| | Central City Ind |
| | CUMBERLAND |
| | Grayson |
| | GREEN |
| | Henry |
| | LAUREL |
| | LEE |
| | Ludlow Ind |
| | MONROE |
| | WHITLEY |
| 24 | Bullitt |
| | Christian |
| 24 | GREENUP |
| | Greenville Ind |
| | Owen |
| | Pendleton |
| | PIKE |
| | RUSSELL |
| | Washington |
| 25 | Butler |
| | CLINTON |
| | FAIRVIEW IND |
| | Frankfort Ind |
| | Marion |
| | PAINTSVILLE IND |
| | Shelby |
| | Trigg |
| | Union |
| 26 | Dayton Ind |
| | ESTILL |
| | KNOX |
| | MIDDLESBORO IND |
| 27 | JENKINS IND |
| | LINCOLN |
| | Metcalfe |
| | MONTGOMERY |
| | Providence Ind |
| | Taylor |
| 28 | ADAIR |
| | Hart |
| | KNOTT |
| | LETCHER |
| | Logan |
| | Mason |
| | ROCKCASTLE |
| 29 | Augusta Ind |
| | Barren |
| | BATH |
| | FLOYD |
| | Fulton |
| | Fulton Ind |
| | JOHNSON |
| | Muhlenberg |
| | Ohio |
| | Webster |
| 30 | Robertson |
| | Todd |
| 31 | Covington Ind |
| | Edmonson |
| | Eminence Ind |
| | Mason |
| 32 | BREATHITT |
| | Carroll |
| | HARLAN |
| | Livingston |
| | MARTIN |
| 33 | Campbellsville Ind |
| | LAWRENCE |
| | LEWIS |
| | MORGAN |
| | Nelson |
| | Newport Ind |
| 35 | PERRY |
| | Spencer |
| 36 | Gallatin |
| | OWSLEY |
| 37 | CLAY |
| 39 | BELL |
| | RICHMOND IND |
| | WOLFE |
| 40 | MAGOFFIN |
| 41 | Maysville Ind |
| 44 | LESLIE |

# TABLE 4

PERCENTAGE OF KENTUCKY STUDENTS IN THE BELOW AVERAGE RANGE BY SCHOOL DISTRICT: C.T.B.S. LANGUAGE TOTAL, GRADE 10*

| % | District |
|---|---|
| 1 | Beechwood Ind |
| 2 | MODEL LAB |
| 4 | BARBOURVILLE IND |
| 5 | Cloverport Ind |
| | Lyon |
| 6 | Bracken |
| | CORBIN IND |
| 7 | Burgin Ind |
| | MENIFEE |
| | Murray Ind |
| | RUSSELL IND |
| 8 | Calloway |
| | Elizabethtown Ind |
| | Glasgow Ind |
| | Hickman |
| | MONTICELLO IND |
| | UNIV. BRECKINRIDGE |
| | Walton Verona Ind |
| 9 | Bellevue Ind |
| | Danville Ind |
| | Ft. Thomas Ind |
| | Mayfield Ind |
| 10 | Williamstown Ind |
| 11 | CLARK |
| | JACKSON |
| | RACELAND IND |
| 12 | Breckinridge |
| | FAIRVIEW IND |
| | Grant |
| | Marshall |
| | McCracken |
| 13 | Carlisle |
| | Dawson Springs Ind |
| | Erlanger-Elsmere Ind |
| | Ft. Campbell |
| | Mercer |
| | Paris Ind |
| | Silver Grove Ind |
| | WILLIAMSBURG IND |
| | Woodford |
| 14 | ASHLAND IND |
| | BOYD |
| | Fayette |
| | Ft. Knox |
| | Fulton Ind |
| | HARLAN IND |
| | Kenton |
| | SOMERSET IND |
| 15 | BEREA IND |
| | Caldwell |
| | Campbell |
| | Daviess |
| | Franklin |
| | HAZARD IND |
| | MADISON |
| | PINEVILLE IND |
| | PULASKI |
| | Scott |
| | Washington |
| 16 – | Bardstown Ind |
| | Boyle |
| | FLEMING |
| | Frankfort Ind |
| | GARRARD |
| | GREEN |
| | Harrodsburg Ind |
| | Meade |
| | Oldham |
| | PIKEVILLE IND |
| 17 | Graves |
| | Grayson |
| | LYNCH IND |
| | Nicholas |
| | Paducah Ind |
| | Russellville Ind |
| | Taylor |
| | Trimble |
| | WAYNE |
| 18 | CARTER |
| | CASEY |
| | Hardin |
| | JACKSON IND |
| | Jessamine |
| | Larue |
| | LEE |
| | Owensboro Ind |
| | Warren |
| 19 | Ballard |
| | BREATHITT |
| | Christian |
| | Crittenden |
| | CUMBERLAND |
| | Harrison |
| | Hopkins |
| | KNOTT |
| | LINCOLN |
| | Ludlow Ind |
| | Marion |
| | McClean |
| | Simpson |
| | Union |
| 20 | Anderson |
| | Boone |
| | Bourbon |
| | Butler |
| | Fulton |
| | GREENUP |
| | Hancock |
| | JENKINS IND |
| | MCCREARY |
| 20 | PAINTSVILLE IND |
| | ROWAN |
| | RUSSELL |
| 21 | ADAIR |
| | Logan |
| | MONROE |
| | ROCKCASTLE |
| 22 | Allen |
| | BATH |
| | Bowling Green Ind |
| | Central City Ind |
| | ESTILL |
| | Henderson |
| | Jefferson |
| | KNOX |
| | Livingston |
| | Nelson |
| | Owen |
| | Pendleton |
| | Spencer |
| | WHITLEY |
| 23 | Campbellsville Ind |
| | Caverna Ind |
| | ELLIOTT |
| | LAUREL |
| | LETCHER |
| | Webster |
| 24 | Barren |
| | Eminence Ind |
| | Hart |
| | MIDDLESBORO IND |
| | Muhlenberg |
| | PIKE |
| | Providence Ind |
| | Shelby |
| 25 | Augusta Ind |
| | Dayton Ind |
| | FLOYD |
| | Todd |
| 26 | Bullitt |
| | Carroll |
| | Henry |
| | Mason |
| | Ohio |
| | POWELL |
| 27 | Edmonson |
| | JOHNSON |
| 28 | Greenville Ind |
| | LAWRENCE |
| | MARTIN |
| | MONTGOMERY |
| | Robertson |
| | Trigg |
| 29 | CLINTON |
| | HARLAN |
| 30 | CLAY |
| | Metcalfe |
| 31 | Covington Ind |
| | Gallatin |
| | RICHMOND IND |
| 32 | LEWIS |
| | MAGOFFIN |
| | WOLFE |
| 33 | Newport Ind |
| | OWSLEY |
| 34 | BELL |
| | Maysville Ind |
| | MORGAN |
| | PERRY |
| 40 | LESLIE |

TABLE 5
Third Grade Reading Effectiveness Score Distribution
(C.T.B.S. Reading Scores Minus SFTAA Verbal Ability Scores) for 120 Kentucky School Districts
Mean = -3.39

| | | # |
|---|---|---|
| 6 | 000 | 3 |
| 4 | 00000 | 5 |
| 2 | 000000000 | 9 |
| 0 | 0000 | 4 |
| -0 | 000000000000000000000000 | 24 |
| -2 | 00000000000000000 | 16 |
| -4 | 0000000000000000000000000000 | 28 |
| -6 | 00000000000000 | 14 |
| -8 | 0000000000 | 10 |
| -10 | 00 | 2 |
| -12 | 00000 | 5 |
| -14 | 0 | 1 |
| -16 | | |
| -18 | | |
| -20 | | |
| -22 | | |
| -24 | | |
| -26 | | |
| -28 | 0 | 1 |

TABLE 6
Third Grade Language Effectiveness Score Distribution
(C.T.B.S. Language Scores Minus SFTAA Verbal Ability Scores) for 121 Kentucky School Districts
Mean = -3.86

| | | # |
|---|---|---|
| 6 | 0 | 1 |
| 4 | 00000000 | 8 |
| 2 | 00000000 | 8 |
| 0 | 000 | 3 |
| -0 | 0000000000000000000000 | 22 |
| -2 | 00000000000000000000 | 19 |
| -4 | 0000000000000000000000 | 22 |
| -6 | 00000000000 | 11 |
| -8 | 0000000000 | 10 |
| -10 | 0000000 | 7 |
| -12 | 0000 | 4 |
| -14 | 0 | 1 |
| -16 | 00 | 2 |
| -18 | 0 | 1 |
| -20 | 0 | 1 |
| -22 | 0 | 1 |

**TABLE 7**
**Tenth Grade Reading Effectiveness Score Distribution (C.T.B.S. Reading Scores Minus SFTAA Verbal Ability Scores) for 127 Kentucky School Districts**
**Mean = -10.16**

| | | |
|---|---|---|
| 6 | | |
| 4 | 00 | 2 |
| 2 | | |
| 0 | 0 | 1 |
| -0 | 0 | 1 |
| -2 | 000000 | 6 |
| -4 | 00000000 | 8 |
| -6 | 00000000000000000000 | 19 |
| -8 | 000000000000000000000 | 21 |
| -10 | 00000000000000 | 14 |
| -12 | 000000000000000000000 | 20 |
| -14 | 00000000000000 | 14 |
| -16 | 0000000 | 7 |
| -18 | 000000 | 6 |
| -20 | 00 | 2 |
| -22 | 00 | 2 |
| -24 | 0 | 1 |
| -26 | 0 | 1 |

----+----+----+----+-

**TABLE 8**
**Tenth Grade Language Effectiveness Score Distribution (C.T.B.S. Language Scores Minus SFTAA Verbal Ability Scores) for 126 Kentucky School Districts**
**Mean = -14.02**

| | | |
|---|---|---|
| 0 | | |
| -0 | 0 | 1 |
| -2 | 00000 | 5 |
| -4 | 0000 | 4 |
| -6 | 000000 | 6 |
| -8 | 000000000000000 | 15 |
| -10 | 00000000000 | 11 |
| -12 | 00000000000 | 11 |
| -14 | 000000000000000000 | 19 |
| -16 | 00000000000000000 | 17 |
| -18 | 000000000000000000 | 19 |
| -20 | 000000 | 6 |
| -22 | 0000 | 4 |
| -24 | 0 | 1 |
| -26 | 00000 | 5 |
| -28 | | |
| -30 | | |
| -32 | | |
| -34 | | |
| -36 | | |
| -38 | | |
| -40 | 0 | |

----+----+----+----+-

TABLE 9

Stepwise Multiple Regression Outcomes in the Prediction of Kentucky Third Grade Reading Achievement by School District

| | B Value | F | P> F |
|---|---|---|---|
| INTERCEPT | 6.9240 | | |
| VERBABTH | 0.8226 | 204.31 | 0.0001 |
| PPEXPADA | -0.0056 | 3.24 | 0.0745 |

N = 116
R SQUARE = 0.6819

TABLE 10

Stepwise Multiple Regression Outcomes in the Prediction of Kentucky Third Grade Language Achievement by School District

| | B Value | F | P >F |
|---|---|---|---|
| INTERCEPT | 8.1247 | | |
| VERBABTH | 0.7311 | 152.29 | 0.0001 |
| PPEXPINS | -0.0077 | 3.62 | 0.0598 |

N = 117
R SQUARE = 0.626

TABLE 11

Stepwise Multiple Regression Outcomes in the Prediction of Kentucky Tenth Grade Reading Achievement By School District

| | B Value | F | P> F |
|---|---|---|---|
| INTERCEPT | 11.1086 | | |
| VERBABTE | 0.5518 | 134.68 | 0.0001 |
| LOCFININ | -3.6835 | 2.70 | 0.1027 |
| ECONDEPR | 0.10056 | 15.12 | 0.0002 |

N = 124
R SQUARE = 0.6775

TABLE 12

Stepwise Multiple Regression Outcomes in the Prediction of Kentucky Tenth Grade Language Achievement by School District

| | B Value | F | P>F |
|---|---|---|---|
| INTERCEPT | 3.1210 | | |
| VERBABTE | 0.4804 | 100.89 | 0.0001 |
| ECONDEPR | 0.0885 | 12.36 | 0.0006 |
| PPEXPADM | -0.0642 | 11.44 | 0.0010 |

N = 123
R SQUARE = 0.6089

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